

Fig. 1

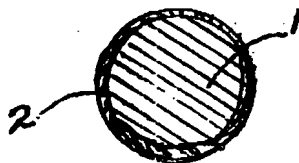


Fig 2

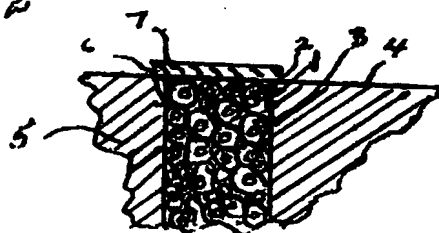


Fig. 3

Paste ID	Filler (wt%)	Resin (%)	Reflow condition	Electrical (mean/st'd)	Mechanical (mean/st'd)	Remark
AgCu01	Ag & Cu (>93)	epoxy	150C, 25psi 30 min	0.00040 (0.00002)	4.3(0.9)	commercial paste
				HY 9#MS	IN Lbs	
BiSn48	BiSn/Cu (68)	epoxy(86) phxy(10) flux(4)	188C, 50 psi 30 min	0.00041 (0.00006)	6.7(0.5)	medium flow resin
BiSn49	BiSn/Cu (76)	epoxy(43) lim-ox(43) phxy(10) flux(4)	188C, 25psi 30 min	0.00027 (0.00004)	5.4(0.9)	high flow resin
BiSn53	BiSn/Cu (77)	epoxy(43) lim-oc(43) phxy(10) flux(4)	188C, 25psi 30 min	0.00023 (0.00003)	5.1(0.3)	high flow resin
BiSn54	BiSn/Cu (81)	lim-ox(88) epoxy(4) phxy(4) flux(4)	188C, 25psi 30 min	0.00018 (0.00002)	3.4(0.3)	very high flow resin

[illegible]

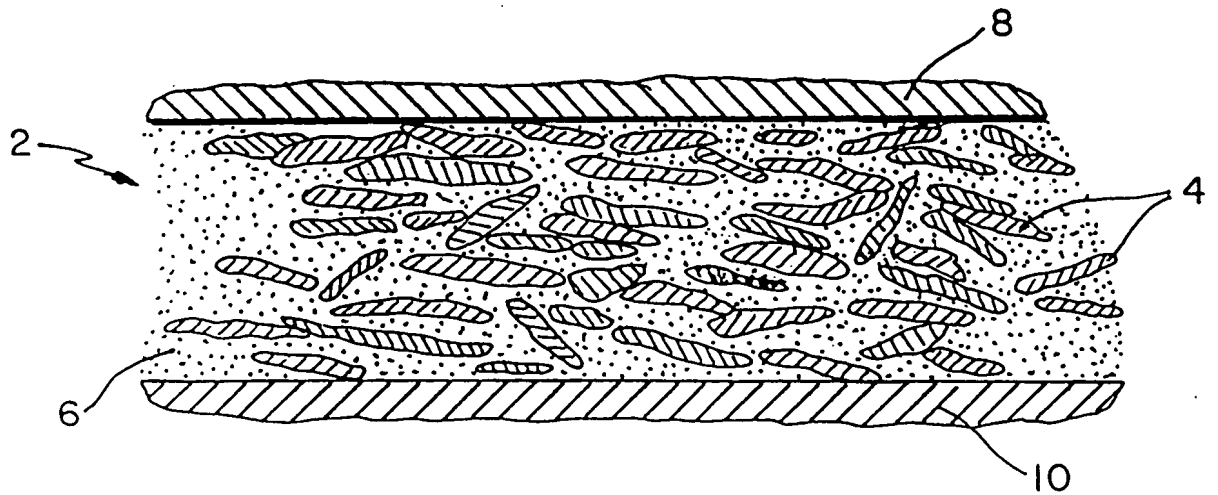


FIG. 1

FIG. 2A

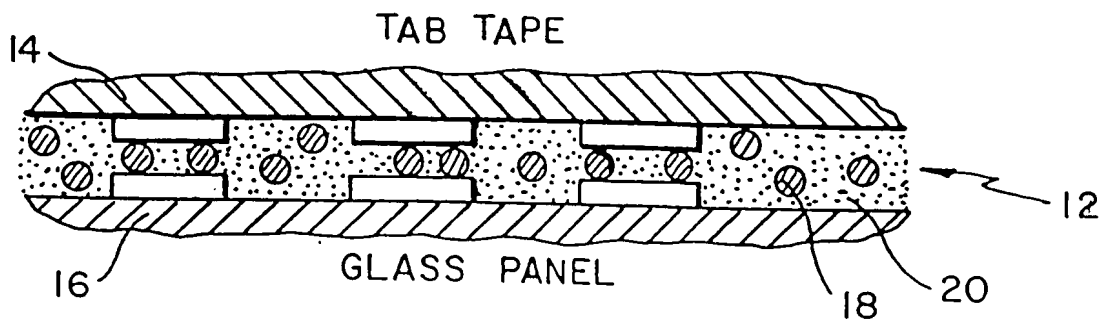
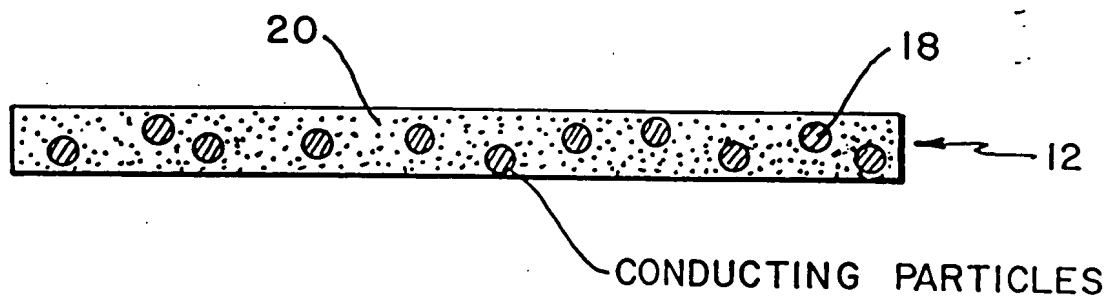


FIG. 2B

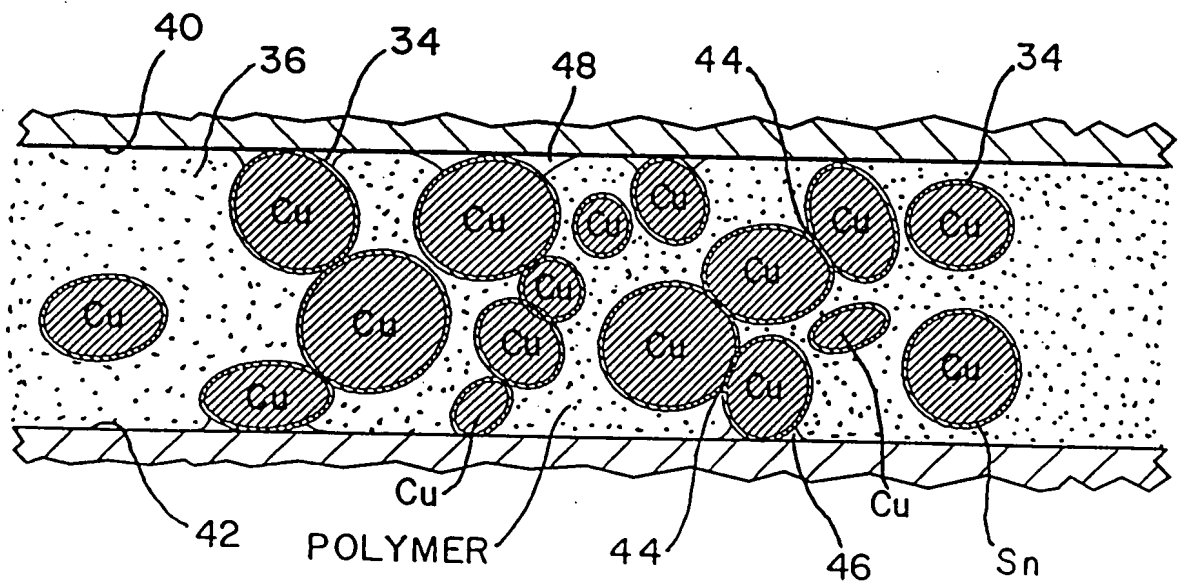


FIG. 3

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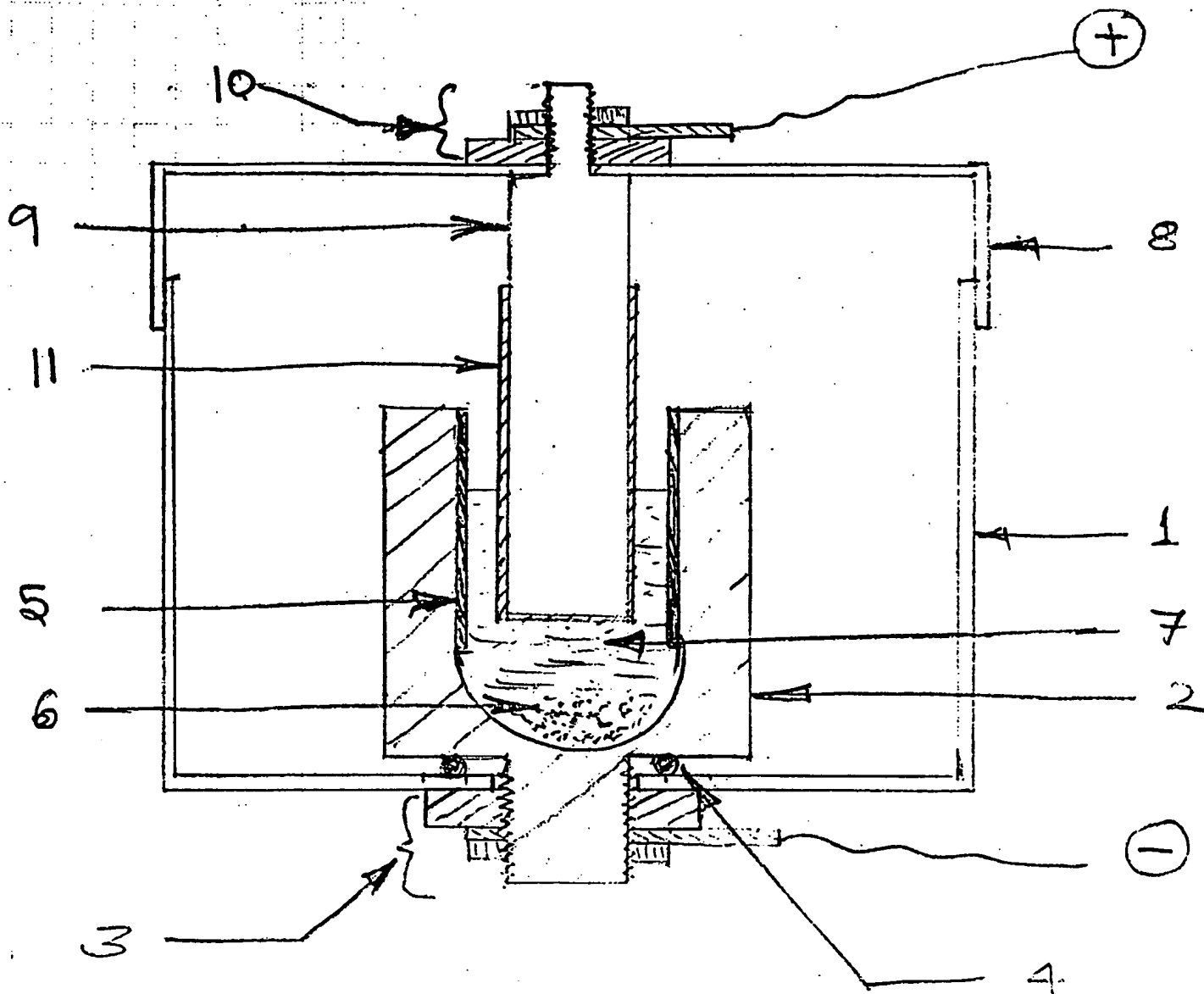


FIGURE 4

SUBJECT

IBM

Thomas J. Watson Research Center

BY

DATE

FILE

SECTION

SHEET

OF

51
2
2)

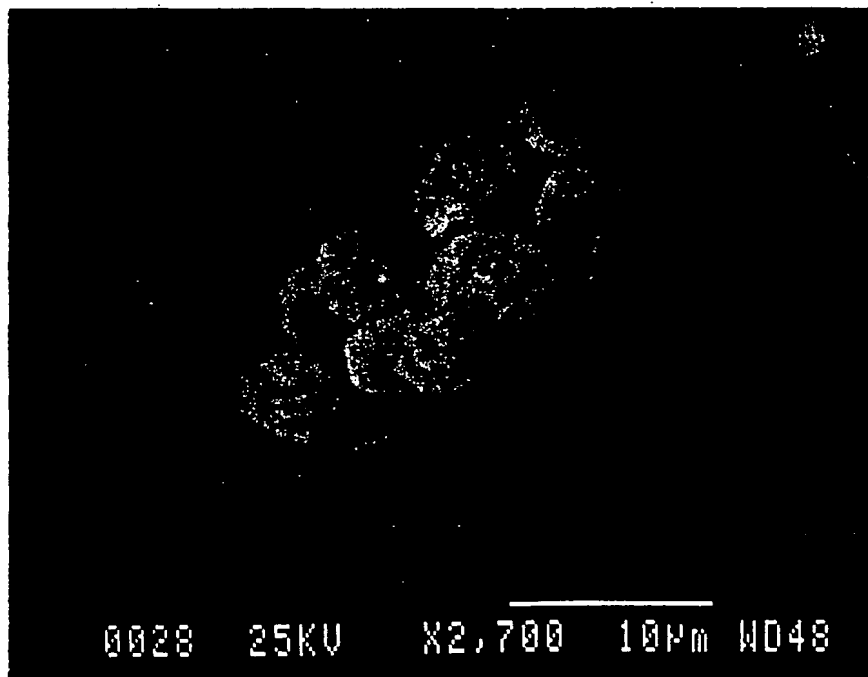


FIGURE 5

CP16

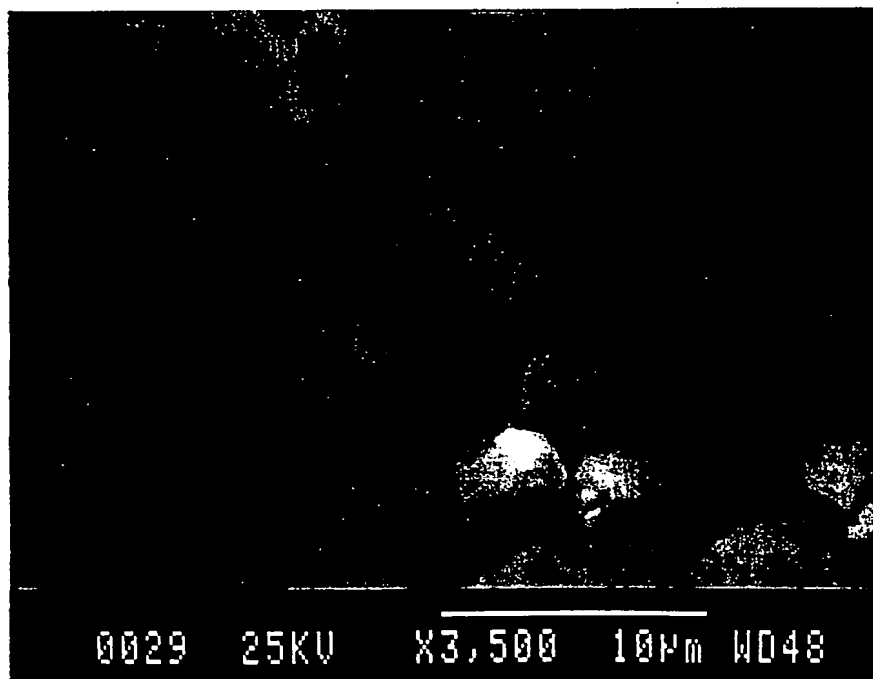


FIGURE 6

FIGURE 8

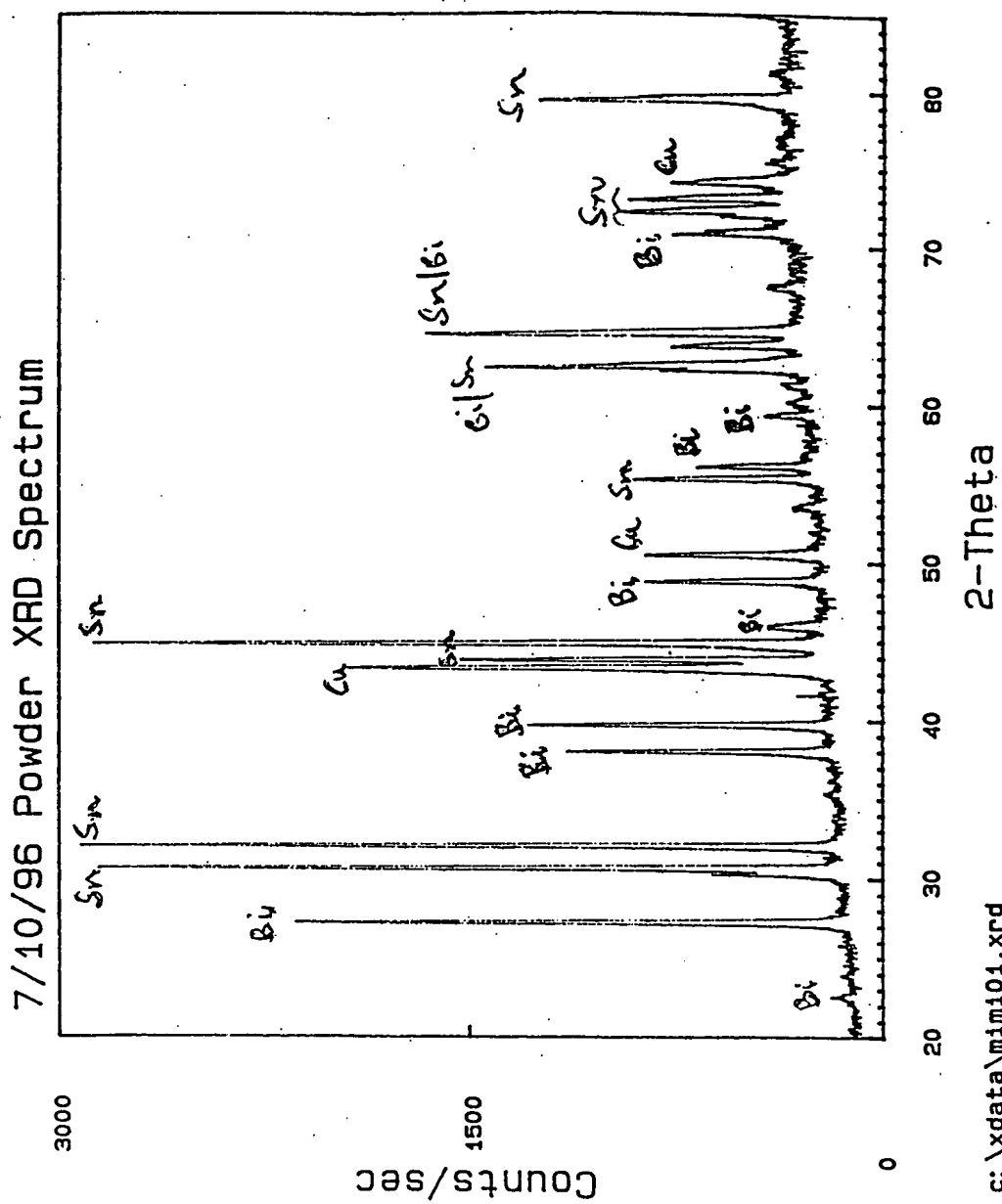


FIGURE 9

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DSC

<Name>	jkBiSnsp19A	<Temp.program[C]>	[C/min]	[min]
<Date>	96/07/01 13:17	i *	70.0- 300.0	10.00 0.00
<Sample>	sp-1-19 Bi/Sn	<Gas>		
	7.320 mg		0.0 ml/min	
	(7.320 mg)		0.0 ml/min	
<Reference>				
	0.000 mg	<Sampling>		
				0.5 sec

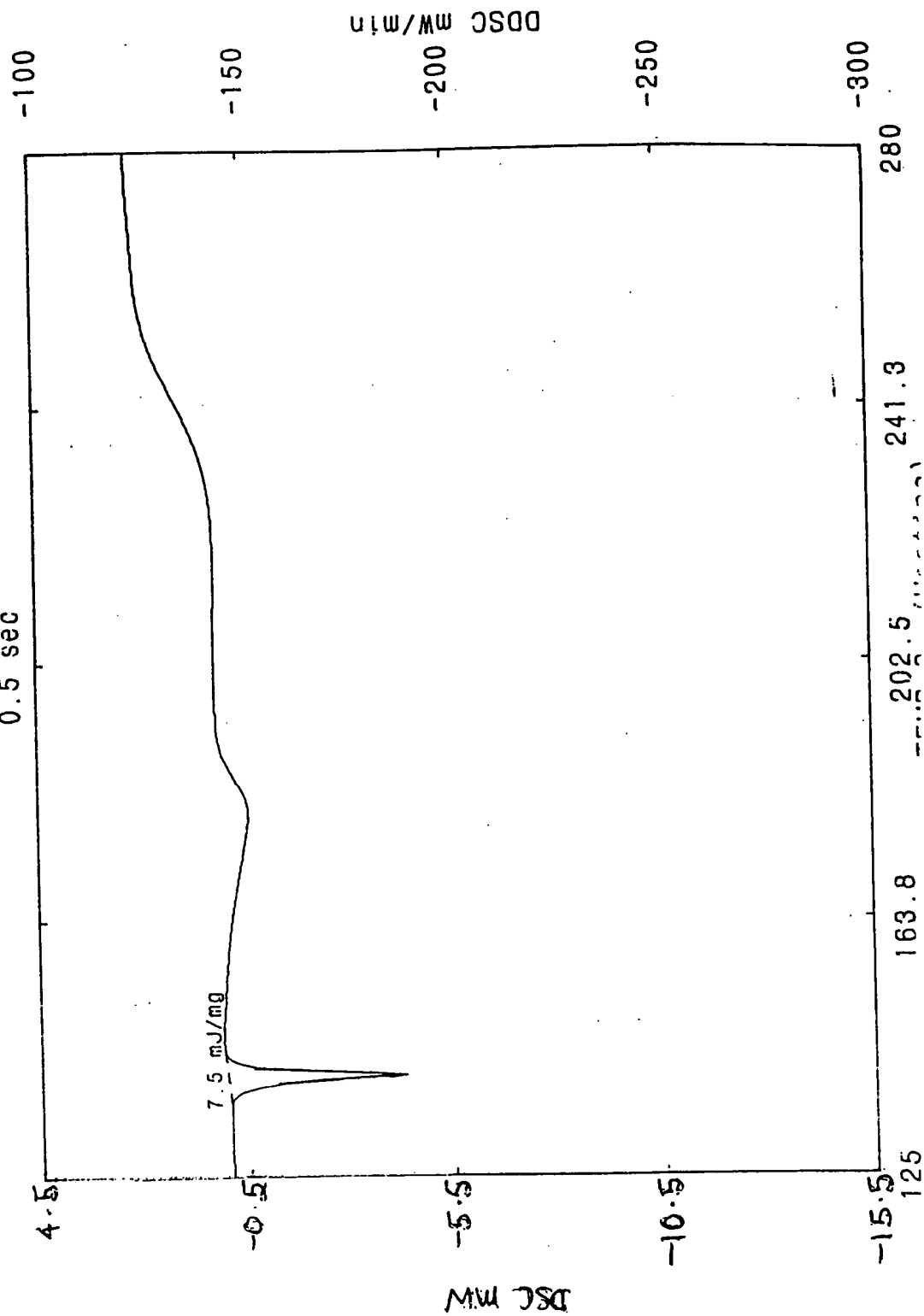
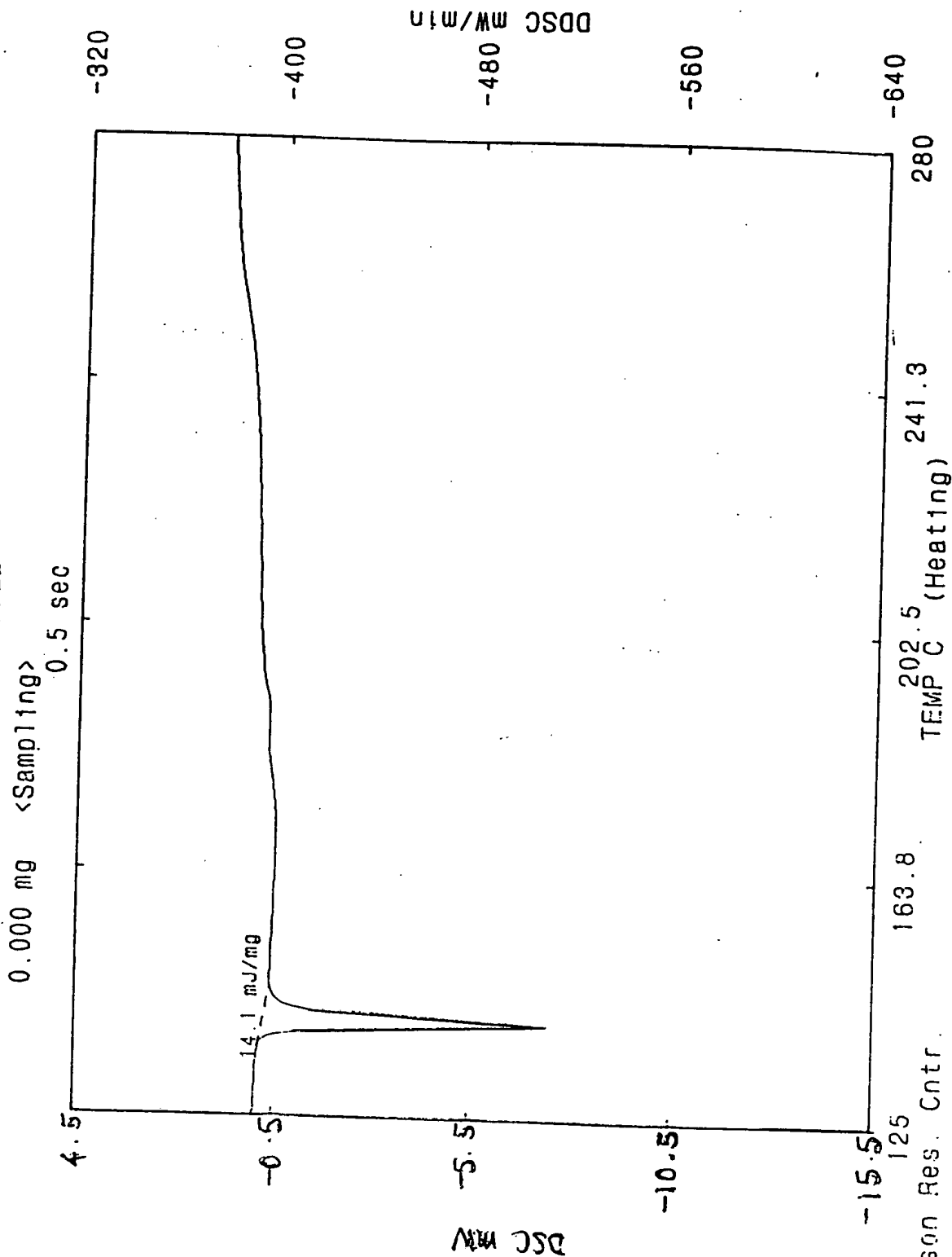


FIGURE 10 . SK. KANG ET AL.

DSC

<Name>	sp-1-19 Bi/Sn	<Sample>	sp-1-19 Bi/Sn	<Comment>	<Temp.program[C]> [C/min]	[min]
jkBiSnSP19B	7.320 mg	(7.320 mg)	7.320 mg	Bi/Sn Run #2	1* 70.0- 300.0	10.00 0.00
<Date>	96/07/01 14:02	<Reference>	0.000 mg	-----	<Gas>	
				-----	n2	0.0 ml/min
				-----	-----	0.0 ml/min



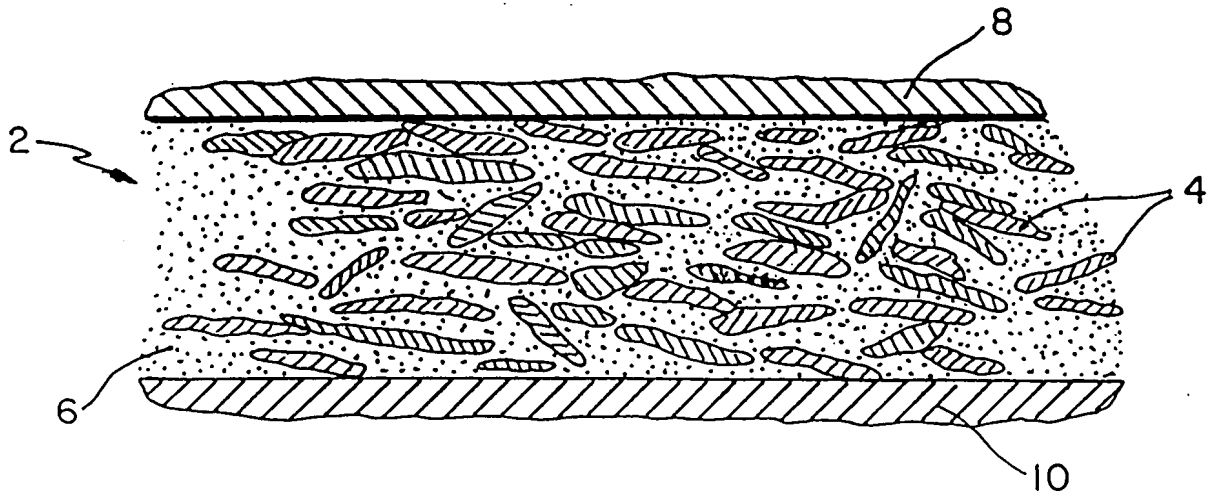


FIG. 1

FIG. 2A

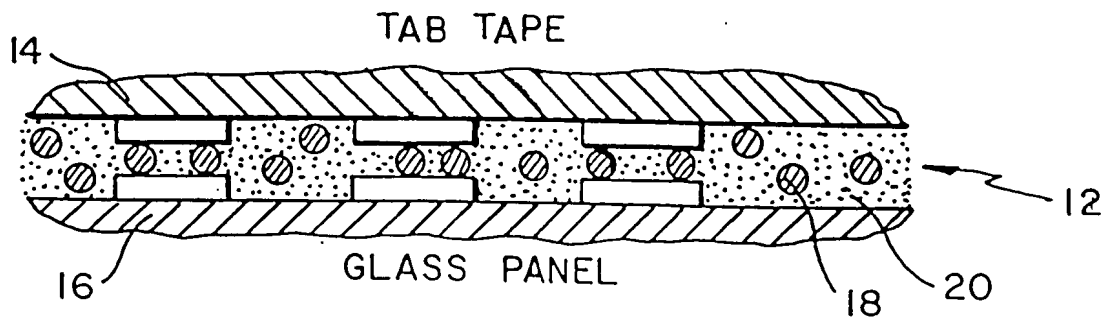
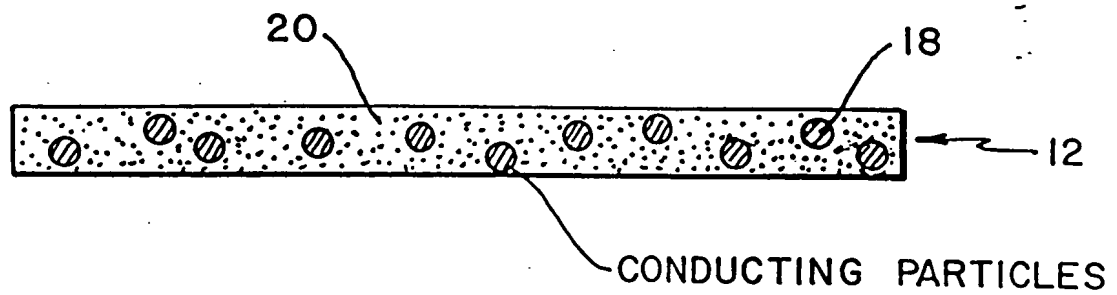


FIG. 2B

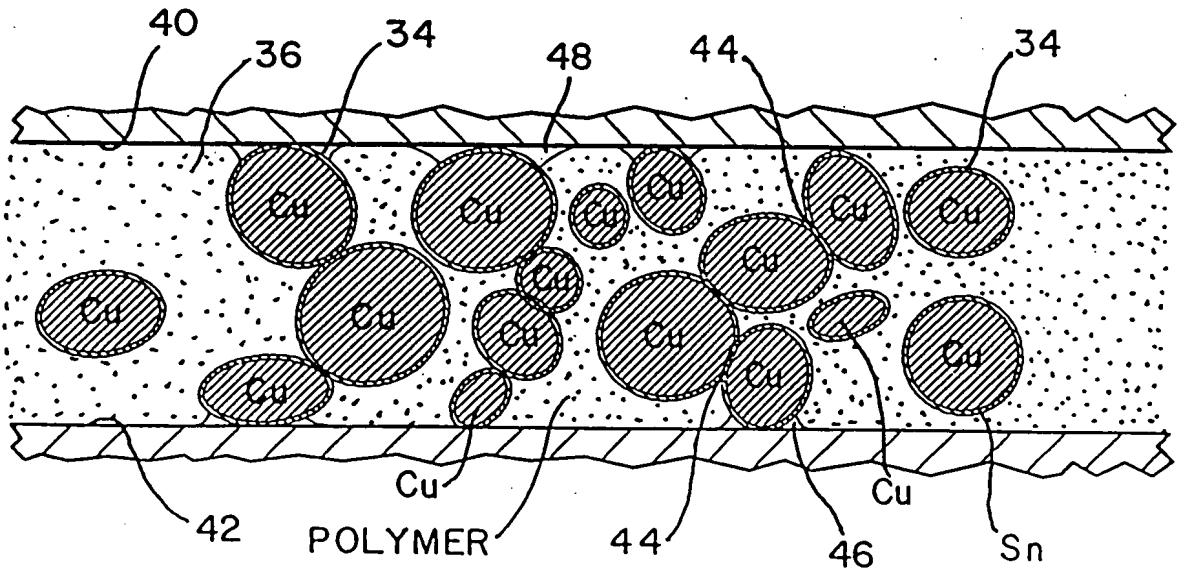


FIG. 3

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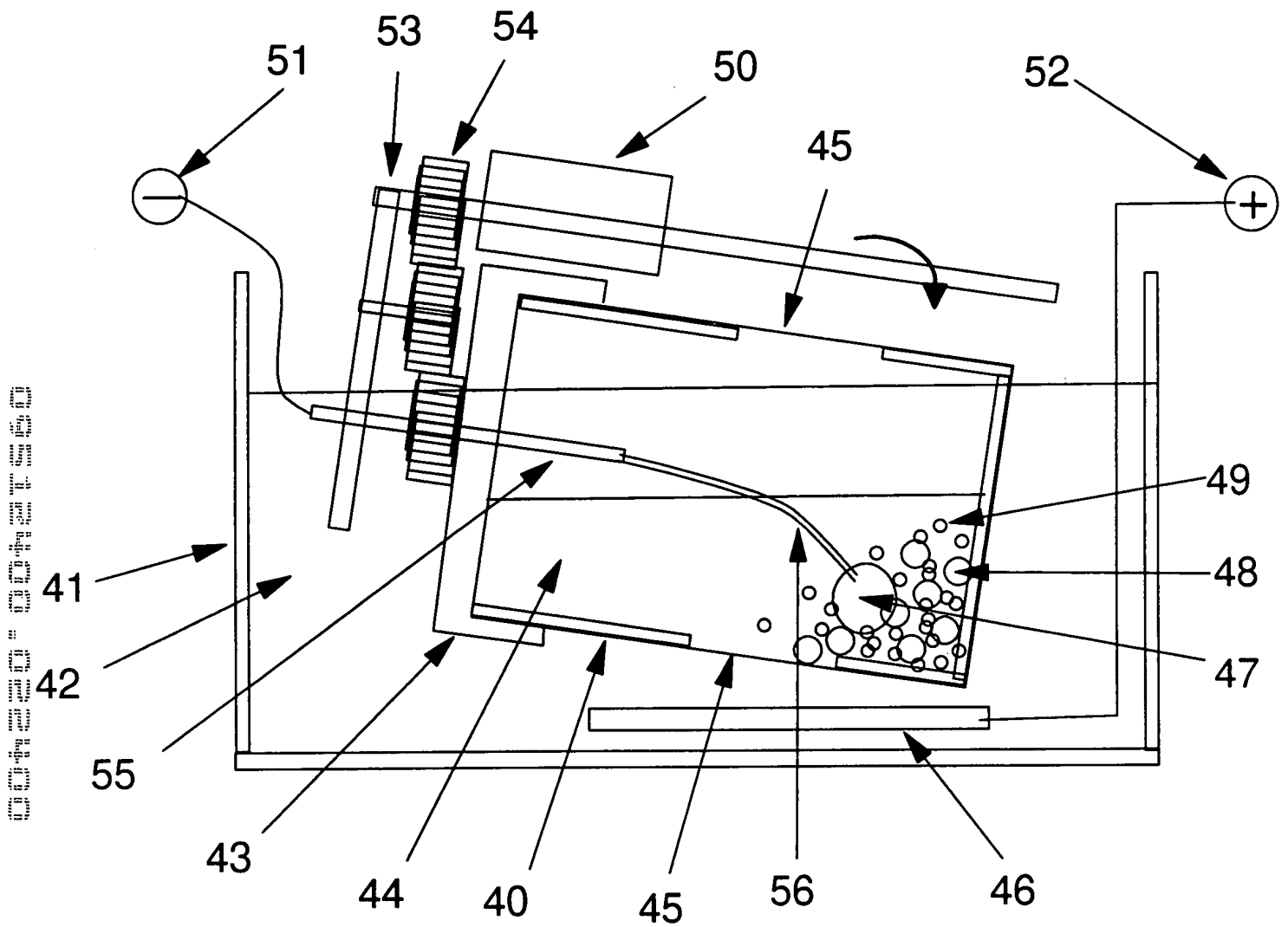


Figure 4

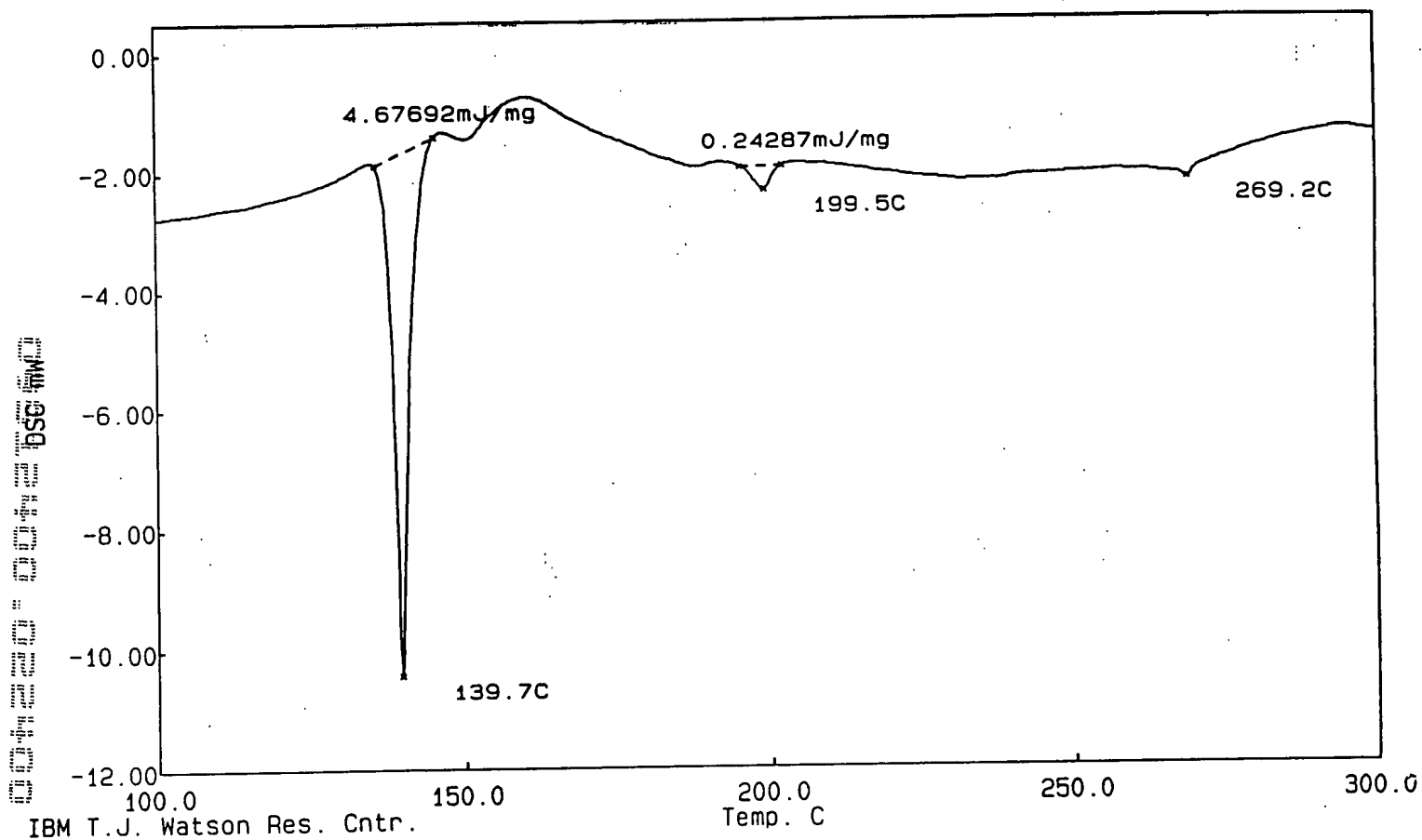


Figure 5

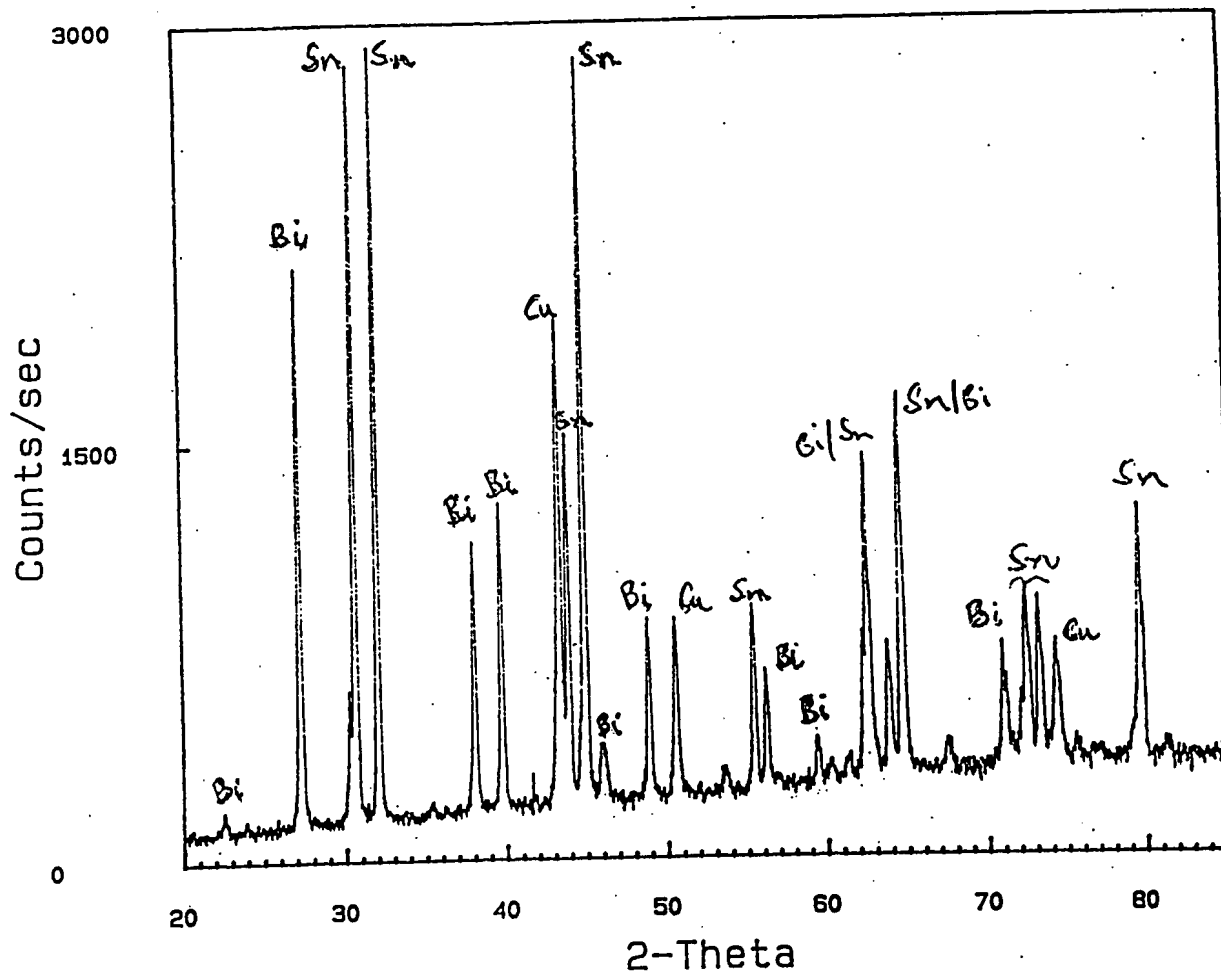


Figure 6